In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0101346
Owner: City of Arbyrd
Address: 102 E. Frisco Street, Arbyrd, MO 63821
Continuing Authority: Same as above
Address: Same as above
Facility Name: Arbyrd WWTF
Facility Address: 0.25 miles northwest of Hwy 164 and CR 631 intersection, Arbyrd, MO 63821
Legal Description: See Page 2
UTM Coordinates: See Page 2
Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Page 2

This permit authorizes only irrigation of wastewater under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

May 1, 2022
Effective Date

April 30, 2027
Expiration Date

Chris Wieberg, Director, Water Protection Program
FACILITY DESCRIPTION (continued):

**Permitted Feature #001 – POTW**

The use or operation of this facility shall be by or under the supervision of a Certified “D” Operator.

Bar screen / three-cell storage lagoon / wastewater is irrigated to the surface / sludge is retained in lagoon

Design population equivalent is 550.

Design Flow is 55,000 gallons per day (Design Flow plus 10-year rainfall minus evaporation, does not account for inflow and infiltration)

Average design flow is 55,000 gallons per day (dry weather flows).

Design sludge production is 5.5 dry tons per year.

Legal Description: Sec. 5, T16N, R8E, Dunklin County

UTM Coordinates: X=750692, Y=3993176

Receiving Stream: Tributary to Honey Cypress Ditch

First Classified Stream and ID: Honey Cypress Ditch (P) (3121)

USGS Basin & Sub-watershed No.: (08020204-0803)

**Storage Basin/Tank:**

Maximum Operating Level: 2 foot of freeboard (storage basin water level in feet below the overflow level)

<table>
<thead>
<tr>
<th></th>
<th>Cell #1</th>
<th>Cell #2</th>
<th>Cell #3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage volume</td>
<td>8.558 MG</td>
<td>2.582 MG</td>
<td>1.135 MG</td>
<td>12.275 MG</td>
</tr>
</tbody>
</table>

**Storage Capacity (in Days):**

Design for Dry weather flows: 131 days

Design with 1-in 10 year flows: 117 days

**Permitted Feature #002 – Center Pivot Irrigation Field**

Legal Description: Sec. 5, T16N, R8E, Dunklin County

UTM Coordinates: X=750448, Y=3992913

Receiving Stream: Tributary to Honey Cypress Ditch

First Classified Stream and ID: Honey Cypress Ditch (P) (3121)

USGS Basin & Sub-watershed No.: (08020204-0803)

**Wastewater Irrigation Design Parameters:**

Irrigation volume per year: 418,229 gallons (based on annual irrigation rate)

Minimum irrigation volume per year at Design Flow: 20,000,000 gallons

Irrigation areas: 48 acres at design loading

Irrigation rates: 0.1 inch/hour; 2.4 inch/day; 24 inch/year/acre

Field slopes: less than 4 percent

Equipment type: Center Pivot

Vegetation: Row Crops

Irrigation rate is based on: Hydraulic loading rate
**PERMITTED FEATURE #001**  
**TABLE A-1**  
**IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to conduct irrigation of wastewater as specified in the application for this permit. The final limitations shall become effective on **May 1, 2022** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>STORAGE BASIN PARAMETER(S)</th>
<th>UNITS</th>
<th>FINAL LIMITATIONS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAILY TOTAL</td>
<td>WEEKLY TOTAL</td>
</tr>
<tr>
<td>Storage Basin Freeboard**</td>
<td>feet</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inches</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

**MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2022.**

<table>
<thead>
<tr>
<th>IRRIGATED WASTEWATER PARAMETER(S)**</th>
<th>UNITS</th>
<th>DAILY MAXIMUM</th>
<th>WEEKLY AVERAGE</th>
<th>MONTHLY AVERAGE</th>
<th>MEASUREMENT FREQUENCY</th>
<th>SAMPLE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit Set: LW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Kjeldahl Nitrogen as N</td>
<td>mg/L</td>
<td>*</td>
<td></td>
<td></td>
<td>once/quarter****</td>
<td>grab</td>
</tr>
<tr>
<td>Nitrate as N</td>
<td>mg/L</td>
<td>*</td>
<td></td>
<td></td>
<td>once/quarter****</td>
<td>grab</td>
</tr>
</tbody>
</table>

**MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2022.**

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**PERMITTED FEATURE #002**  
**TABLE A-2**  
**IRRIGATION SYSTEM LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to conduct irrigation of wastewater as specified in the application for this permit. The final limitations shall become effective on **May 1, 2022** and remain in effect until expiration of the permit. The irrigation of wastewater shall be controlled, limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>IRRIGATION OPERATIONAL MONITORING PARAMETER(S)</th>
<th>UNITS</th>
<th>FINAL LIMITATIONS</th>
<th>MONITORING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAILY TOTAL</td>
<td>WEEKLY TOTAL</td>
</tr>
<tr>
<td>Limit Set: LW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation Period</td>
<td>hours</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Volume Irrigated</td>
<td>gallons</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Irrigation Area</td>
<td>acres</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Irrigation Rate</td>
<td>inches</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

**MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2022.**

* Monitoring requirement only.
** Storage Basin Freeboard shall be reported as storage basin water level in feet below the overflow level.
*** Wastewater that is irrigated shall be sampled at the irrigation pump or wet well. If irrigation did not occur during the report period, report as “No Discharge”.
**** See table below for quarterly sampling.

---

**Minimum Sampling Requirements**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Months</th>
<th>Total Kjeldahl Nitrogen and Nitrate as N</th>
<th>Report is Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>January, February, March</td>
<td>Sample at least once during any month of the quarter</td>
<td>April 28th</td>
</tr>
<tr>
<td>Second</td>
<td>April, May, June</td>
<td>Sample at least once during any month of the quarter</td>
<td>July 28th</td>
</tr>
<tr>
<td>Third</td>
<td>July, August, September</td>
<td>Sample at least once during any month of the quarter</td>
<td>October 28th</td>
</tr>
<tr>
<td>Fourth</td>
<td>October, November, December</td>
<td>Sample at least once during any month of the quarter</td>
<td>January 28th</td>
</tr>
</tbody>
</table>
B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Discharges.
   (a) Monitoring. Any discharge shall be monitored for the parameters in the table below at least once during the discharge event. Additional monitoring may be required by the Department on a case-by-case basis. The facility shall submit test results, along with the number of days the storage basin(s) has discharged during the month, to the Department via the Electronic Discharge Monitoring Report (eDMR) Submission System by the 28th day of the month after the discharge ceases. Permittee shall monitor for the following constituents:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effluent Flow</td>
<td>MGD</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand</td>
<td>mg/L</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>mg/L</td>
</tr>
<tr>
<td>Ammonia as N</td>
<td>mg/L</td>
</tr>
<tr>
<td>pH – Units</td>
<td>SU</td>
</tr>
<tr>
<td>Oil &amp; Grease</td>
<td>mg/L</td>
</tr>
<tr>
<td>E. coli*</td>
<td>#/100mL</td>
</tr>
</tbody>
</table>

   * Sampling for E. coli is only required during the recreational months of April – October.

   (b) Authorized Discharges. A discharge from wastewater storage structures may only occur if rainfall exceeds the 10-year 365-day rainfall event (chronic) or the 25-year 24-hour rainfall event (catastrophic). The facility shall make all reasonable attempts to return the water level in the lagoon to below the maximum operating level. Design Storm Maps and Tables can be found at http://ag3.agebb.missouri.edu/design_storm/. For this facility:

<table>
<thead>
<tr>
<th>Dunklin County</th>
<th>Data Collected: 10-19-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year 365-day rainfall event</td>
<td>60.0 inches</td>
</tr>
<tr>
<td>25-year 24-hour rainfall event</td>
<td>6.6 inches</td>
</tr>
</tbody>
</table>

   (c) Unauthorized Discharges. Discharge for any other reason than what is stated in 1(b) of this Special Condition shall constitute a permit violation and shall be reported in accordance with Standard Conditions Part 1 Section B.2. Unauthorized discharges are to be reported to the Southeast Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours.
C. SPECIAL CONDITIONS (continued)

2. Wastewater Irrigation System.
   (a) No-discharge facility requirements. Wastewater shall be stored and irrigated during suitable conditions so that there is no discharge from the storage basins or irrigation sites.
   (b) Storage Basin Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked in each of the storage basins. Each storage basin shall be operated so that the maximum water elevation does not exceed two feet below the Emergency Spillway except due to exceedances of the 10-year 365-day rainfall event or 25-year 24-hour rainfall event as detailed in Special Condition 1. Wastewater shall be irrigated whenever feasible based on soil, weather conditions, and permit requirements. To ensure maximum storage capacity for the winter months when soil conditions may not be suitable for wastewater irrigation, the storage basin(s) shall be lowered to the two-foot minimum operating level during the months of September through November unless the Department approves a specific deviation from this requirement.
   (c) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm.
   (d) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. The wastewater irrigation system shall be capable of irrigating the annual design flow during an irrigation period of 100 days or less per year. If the facility determines that night time irrigation is needed, the facility shall submit a night time irrigation plan to the Department’s Water Protection Program for review and approval. Night time irrigation shall only occur when the Department has approved the night time irrigation plan.
   (e) Saturated/Frozen Conditions. There shall be no surface irrigation during ground frost; frozen, snow-covered, or saturated soil conditions; or when precipitation is imminent or occurring.
   (f) Slope Restrictions. Wastewater irrigation on slopes exceeding 10%, the hourly irrigation rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.
   (g) Set Backs. There shall be no irrigation within:
      (1) 150 feet of dwelling or public use areas;
      (2) 50 feet of the property line or public road;
      (3) 300 feet of any sinkhole, losing stream, or any other feature that may provide a connection to the ground water table and the surface;
      (4) 300 feet from any existing potable water supply well not located on the property;
      (5) 100 feet of any gaining streams (classified or unclassified; perennial or intermittent), wetlands, ponds, or lakes. As a compliance alternative a 35-foot vegetative buffer that is permanently covered with perennial vegetation may be substituted for the 100 foot set-back requirement; and
      (6) If an established vegetated buffer or the wastewater is disinfected, the setbacks established in subsections (1)-(5) above may be decreased if the permittee demonstrates the risk is mitigated.
   (h) Public Access Restrictions. Public access shall not be allowed to public-use-area surface irrigation sites when irrigation is occurring.
   (i) Grazing and Harvesting of Forage Crops Restrictions. Grazing of animals shall be deferred as per the following:
      (1) From May 1 to October 31, the minimum deferment from grazing or forage harvesting shall be 14 days.
      (2) From November 1 to April 30, the minimum deferment from grazing or forage harvesting shall be 30 days.
   (j) Irrigated Wastewater Disinfection. Wastewater shall be disinfected prior to irrigation (not storage) to public-use-areas.
   (k) Agronomic Irrigation Rates. Wastewater irrigation shall not exceed agronomic rates to ensure agricultural use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater applied to a field to meet the fertilizer recommendation.
   (l) Equipment Checks during Irrigation. The irrigation system, including application sites, shall be visually inspected during periods of wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site. Inspections shall occur once per day for surface irrigation.
   (m) Nitrogen Loading Rates. If irrigated wastewater exceeds 150 lbs of total nitrogen per acre annually or has a nitrate as N concentration greater than 10 mg/L, then additional information shall be included in the annual report outlined in Special Condition #3. The report must contain calculations that show the amount of plant-available nitrogen (PAN) provided and the amount of nitrogen that will be utilized by the vegetation to be grown.

The calculations are as follows:

- Total nitrogen (mg/L) = [Total Kjeldahl Nitrogen as N] + [Nitrate as N]
- Total nitrogen (lbs/acre) = [Total nitrogen] x [0.226] x [inches per acre irrigated]
- PAN availability for surface application = [Total Kjeldahl Nitrogen as N x 0.6] + [Nitrate as N x 0.9].
C. SPECIAL CONDITIONS (continued)

3. Wastewater irrigation records shall be maintained and summarized into an annual operating report for the previous calendar year. This annual report is in addition to the reporting requirements listed in Table A and the report shall be kept onsite and made available to Department personnel upon request. The summarized annual report shall include the following:
   (a) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
   (b) The number of days the storage basin(s) has discharged during the year, the discharge flow, and the reasons discharge occurred; and
   (c) A summary of the irrigation operations for the year including: the number of days of irrigation, the total gallons irrigated, the total acres used, the irrigation rate in inches for the year, and the annual precipitation received at the facility. It shall also include the calculations for total nitrogen applied and crop removal of nitrogen as required by Special Condition #2.

4. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit) shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data about the NPDES program. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as “Permitted Feature 001 Daily Data Jan 2023,” or “Permitted Feature 004 Daily Irrigation Data Mar 2025.”
   (a) eDMR Registration Requirements. The permittee must register with the Department’s eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem. Information about the eDMR system can be found at https://dnr.mo.gov/water/business-industry-other-entities/reporting/electronic-discharge-monitoring-reporting-system-edmr. The first user shall register as an Organization Official and the association to the facility must be approved by the Department. Regarding Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department. See paragraph (c) below.
   (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action. If you experience difficulties with using the eDMR system you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.
   (c) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days

5. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
   (a) To comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) To incorporate an approved pretreatment program or modification thereto pursuant to 40 CFR 403.8(c) pursuant to 40 CFR or 403.18(e), respectively.

6. Changes in existing pollutants or the addition of new pollutants to the treatment facility

   The permittee must provide adequate notice to the Director of the following:
   (a) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
   (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   (c) For purposes of this paragraph, adequate notice shall include information on;
      (1) the quality and quantity of effluent introduced into the POTW, and
      (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

7. Report as no-discharge when irrigation does not occur during the report period.

8. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
C. SPECIAL CONDITIONS (continued)

9. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9. The monitoring frequencies contained in Table A of this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. To request modification of the operational control testing requirements, the permittee shall submit a permit modification application and fee to the Department requesting a deviation from the operational control monitoring requirements. If the request is approved, the Department will modify the permit.

10. The permittee shall develop and implement a program for maintenance and repair of its collection system. The permittee may compare collection system performance results and other data with the benchmarks used in the Departments’ Capacity, Management, Operation, And Maintenance (CMOM) Model located at https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. Additional information regarding the Departments’ CMOM Model is available at https://dnr.mo.gov/print/document-search/pub2574.

The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:

(a) A summary of the efforts to locate and eliminate sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.

(b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.

(c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.

11. All outfalls must be clearly marked in the field.

12. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and wastewater irrigation systems, including key operating procedures, an aerial or topographic site map with the permitted features, irrigation fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O&M manual shall be made available to the operator and shall be reviewed and updated at least every five years or when there is a change in equipment or irrigation sites.

13. Reporting of Non-Detects:

(a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.

(b) See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, No. 4 regarding proper testing and method minimum levels used for sample analysis.

(c) The permittee shall not report a sample result as “Non-Detect” without also reporting the method minimum level of the test. Reporting as “Non Detect” without also including the method minimum level, will be considered failure to report, which is a violation of this permit.

(d) The permittee shall provide the “Non-Detect” sample result using the less than symbol and the method minimum level (e.g., <50 µg/L, if the method minimum level for the parameter is 50 µg/L).

(e) Where the permit contains a Department determined Minimum Quantification Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.

(f) For the daily maximum, the facility shall report the highest value. If the highest value was a non-detect, use the less than “<” symbol and the laboratory’s highest method minimum level.

(g) For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

(h) For reporting an average based on a mix of detected and non-detected values (not including E. coli), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

(i) When E. coli is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means.

(j) See the Fact Sheet Appendix - Non-Detect Example Calculations for further guidance.

14. Access to the storage basin(s) and any associated wastewater irrigation equipment must be sufficiently restricted or secured to prevent entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

15. An all-weather access road shall be provided to the treatment facility.
C. SPECIAL CONDITIONS (continued)

16. The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

17. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.

18. Wastewater Irrigation Sites. To add additional irrigation sites or to convert any of the land to public-use-areas, a construction permit, geohydrologic evaluation, soils report, and permit modification may be required. The facility shall contact the Department for a written determination.

19. This facility does not currently retain an operator with the correct level of certification required to operate the wastewater treatment facility. Missouri Clean Water Law and its implementing regulation 10 CSR 20-9.020(2)(F) allows the Department to develop a schedule of activities including the date by which compliance shall be obtained. The City of Arbyrd shall submit a written report to the Southeast Regional Office within six (6) months from the effective date of this operating permit. The report shall contain:
   (a) The Certified Operators’ name,
   (b) The Certified Operators’ certification number,
   (c) A copy of the contract between the City and the Certified Operator; and/or
   (d) A written correspondence from the City indicating that they have hired the services of the Certified Operator.

D. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov
MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0101346
ARBYRD WWTF

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Minor.

Part I – Facility Information

Facility Type and Description: POTW
Three-cell storage lagoon / wastewater is irrigated to the surface / sludge is retained in lagoon

Application Date: 10/05/21
Expiration Date: 09/30/20

Permitted Feature(s) Table:

<table>
<thead>
<tr>
<th>PERMITTED FEATURE</th>
<th>DESIGN FLOW (CFS)</th>
<th>TREATMENT LEVEL</th>
<th>EFFLUENT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>#001</td>
<td>0.09</td>
<td>Storage Basins</td>
<td>Domestic</td>
</tr>
<tr>
<td>#002</td>
<td></td>
<td>Irrigation Field</td>
<td></td>
</tr>
</tbody>
</table>

Comments:
Changes in this permit include changes from a discharging lagoon to a non-discharge land application system. Changes include the addition of permitted features #001 – POTW and #002 Center Pivot Irrigation Field and the removal of Outfall #001. Design flow and population equivalent decreased reflective of the new system’s capabilities. See Part VII of the Fact Sheet for further information regarding the addition and removal of effluent parameters.

Special conditions were updated to include the addition of the certified operator requirements, the addition of requirements to add additional wastewater irrigation sites, the addition of wastewater irrigation record keeping, the addition of monitoring and reporting requirements for discharges, and the addition of the Wastewater Irrigation System special condition. Changes to the special conditions also include the revision of the Electronic Discharge Monitoring Report (eDMR) Submission System, the revision of Reporting of Non-Detects, the removal of the requirement to connect to a facility with an area-wide management plan due to the facility not being located near the jurisdiction of a higher continuing authority, the removal of the special condition regarding the U.S. Environmental Protection Agency’s Ammonia guidance, the removal of special conditions requiring gates and warning signs, but the facility must remain sufficiently secured to restrict access per special condition 14, and the removal of Acute WET test requirements.
Part II – Receiving Stream Information

While this facility is no discharge, a receiving stream is listed for the purposes of showing what stream would be affected in the event of a discharge due to an acute or chronic rain event.

RECEIVING STREAM(S) TABLE: PERMITTED FEATURE #001

<table>
<thead>
<tr>
<th>WATER-BODY NAME</th>
<th>CLASS</th>
<th>WBID</th>
<th>DESIGNATED USES*</th>
<th>12-DIGIT HUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary to Honey Cypress Ditch</td>
<td>NA</td>
<td>NA</td>
<td>General Criteria</td>
<td>08020204-0803</td>
</tr>
<tr>
<td>Honey Cypress Ditch</td>
<td>P</td>
<td>3121</td>
<td>AQL, WBC-B, SCR, HHP, IRR, LWW</td>
<td></td>
</tr>
</tbody>
</table>

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission’s water quality objectives in terms of “water uses to be maintained and the criteria to protect those uses.” The receiving stream and 1st classified receiving stream’s beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:  
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; CDF = Cold-water fishery (Current narrative use is cold-water habitat); CLF = Cool-water fishery (Current narrative use is cold-water habitat); EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = Whole body contact recreation that supports swimming uses and has public access;
WBC-B = Whole body contact recreation that supports swimming;
SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation for use on crops utilized for human or livestock consumption;
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply;
IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)
WSA = Storm- and flood-water storage and attenuation; WHP = Habitat for resident and migratory wildlife species;
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = Hydrologic cycle maintenance.

10 CSR 20-7.031(6): GRW = Groundwater

Receiving Water Body’s Water Quality
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation.

This facility is designed for wastewater irrigation; therefore, it does not discharge to a 303(d) listed stream or to a stream with an EPA approved TMDL.
**Permit Limits Determination**

**PERMITTED FEATURE #001 – STORAGE BASIN**

- **Freeboard.** Monitoring requirement to verify adequate freeboard is maintained, so as to avoid an overflow of the storage basin.

- **Precipitation.** Monitoring requirement to ensure appropriate irrigation is conducted to account for accumulated water in the storage basin.

- **Total Kjeldahl Nitrogen.** Monitoring requirement only. Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the irrigation fields. [10 CSR 20-6.015(4)(A)]

- **Nitrate as N.** Monitoring requirement only. Monitoring for Nitrate Nitrogen as N is included to determine nutrient loading rates on the irrigation fields. [10 CSR 20-6.015(4)(A)]

**PERMITTED FEATURE #002 – IRRIGATION FIELD**

- **Irrigation Period.** Monitoring requirement only. Monitoring for the Irrigation Period is included to determine if proper irrigation is occurring on the irrigation fields.

- **Volume Irrigated.** Monitoring requirement only. Monitoring for the Volume Irrigated is included to determine if proper irrigation is occurring on the irrigation fields.

- **Irrigation Area.** Monitoring requirement only. Monitoring for the Irrigation Area is included to determine if proper irrigation is occurring on the irrigation fields.

- **Irrigation Rate.** Monitoring requirement only. Monitoring for the Irrigation Rate is included to determine if proper irrigation is occurring on the irrigation fields.

The annual irrigation rate on this permit differs from the construction permit. The following calculations are provided to explain why this facility was given the default annual application rate.

The facility has a design average flow of 55,000 gallons per day. In the construction permit and facility plan, a soils report was completed which stated they could land apply up to 2.4 inches/day and 17 inches/week. The facility estimated that they could land apply 473 inches of water over the 48 acres at 2.4 inches/day in 200 days. If they land apply 2.4 inches/day, it would take the facility approximately 6.4 days to land apply all 20 million gallons.

\[
\frac{55,000 \text{ gallons}}{\text{day}} \times \frac{365.25 \text{ days}}{\text{year}} = \frac{20,000,000 \text{ gallons}}{\text{year}}
\]

\[
\frac{20,000,000 \text{ gallons}}{\text{year}} \times \frac{1 \text{ ft}^3}{7.48 \text{ gallons}} = \frac{2,673,796.8 \text{ ft}^3}{\text{year}}
\]

The facility has 48 acres for land application to occur on (48 acres * 43560 ft² = 2090880 ft²)

\[
\frac{2,673,796.8 \text{ ft}^3}{\text{year}} \times \frac{1}{2,090,880 \text{ ft}^2} = \frac{1.28 \text{ ft}}{\text{year}}
\]

\[
\frac{1.28 \text{ ft}}{\text{year}} \times \frac{12 \text{ inches}}{1 \text{ ft}} = \frac{15.35 \text{ inches}}{\text{year/acre}}
\]

Default land application rate is 24 inches/year/acre

\[
\frac{15.35 \text{ inches}}{\text{year/acre}} < 24 \frac{\text{ inches}}{\text{year/acre}}
\]
The facility calculated if they land applied the 20 million gallons over the 48 acres in 200 days, the land application rate would be

$$\frac{20,000,000 \text{ gallons}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times \frac{200 \text{ days}}{\text{day}} = \frac{100,000 \text{ gallons}}{\text{day}}$$

$$\frac{100,000 \text{ gallons}}{\text{day}} \times \frac{1 \text{ ft}^3}{7.48 \text{ gallons}} \times \frac{1 \text{ inch}}{2090880 \text{ ft}^2} \times \frac{12 \text{ inches}}{1 \text{ ft}} = 0.077 \frac{\text{ inches}}{\text{day}}$$

Land application rate from soils report is 2.4 inches/day

$$0.077 \frac{\text{ inches}}{\text{day}} < 2.4 \frac{\text{ inch}}{\text{day}}$$

Assuming an 8 hour day of land application,

$$0.077 \frac{\text{ inches}}{\text{day}} \times \frac{1 \text{ day}}{8 \text{ hrs}} = 0.01 \frac{\text{ inches}}{\text{hr}}$$

Land application rate from the construction permit is 0.1 inches/hr

$$0.01 \frac{\text{ inches}}{\text{hr}} < 0.1 \frac{\text{ inches}}{\text{hr}}$$

The lift station limits flows to the fields to 400 gallons per minute. Assuming land application for 8 hrs a day,

$$\frac{100,000 \text{ gallons}}{\text{day}} \times \frac{1 \text{ day}}{8 \text{ hrs}} \times \frac{1 \text{ hr}}{60 \text{ mins}} = \frac{208.3 \text{ gallons}}{\text{min}}$$

$$\frac{208.3 \text{ gallons}}{\text{min}} < 400 \frac{\text{gallons}}{\text{min}}$$

If all 400 gallons per minute was flowing,

$$\frac{400 \text{ gallons}}{\text{min}} \times \frac{60 \text{ mins}}{1 \text{ hr}} \times \frac{8 \text{ hrs}}{1 \text{ day}} \times \frac{200 \text{ days}}{1 \text{ year}} = 38,400,000 \frac{\text{gallons}}{\text{year}}$$

$$38,400,000 \frac{\text{gallons}}{\text{year}} > 20,000,000 \frac{\text{gallons}}{\text{year}}$$

The pump station does not need to run 8 hours a day or 200 days per year, as it has capacity to land apply more in a year than what is generated.

**Sampling Frequency Justification:**
Due to the discharge being from irrigation from a storage basin, the sampling frequency established in the permit has been determined to be appropriate.

**Sampling Type Justification:**
Due to the discharge being from irrigation from a storage basin, a grab sample is a representative and appropriate sample type. Variation in nutrient concentration is not expected over a 24 hour period.

**Discharge Parameters** – BODs, TSS, Ammonia, pH, Oil & Grease, and E. coli are conventional pollutants found in domestic wastewater. These parameters shall be monitored at least once during the discharge event. Additional monitoring may be required by the Department on a case-by-case basis. All samples shall be collected as grab samples. pH samples cannot be preserved and must be sampled in the field.
OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses. This facility utilizes irrigation of domestic wastewater to the land surface and therefore does not discharge. Based upon a review of a recent Report of Compliance Inspection for the inspection conducted on November 14, 2019, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, there had been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of the wastewater irrigation. Therefore, based on the information reviewed during the drafting of this permit, and the fact that the facility does not discharge, no reasonable potential to cause or contribute to an excursion of this criterion exists.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. Please see (A) above as justification is the same.

(E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.

(F) There shall be no significant human health hazard from incidental contact with the water. Please see (A) above as justification is the same.

(G) There shall be no acute toxicity to livestock or wildlife watering. Please see (A) above as justification is the same.

(H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.

(I) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.
Part VI – Rationale and Derivation of Effluent Limitations & Permit Conditions

**ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

**ANTI-BACKSLIDING:**
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(o); 40 CFR Part 122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply. This facility has converted to a no-discharge facility.

**ANTIDEGRADATION:**
In accordance with Missouri’s Water Quality Standard [10 CSR 20-7.031(3)], the Department is to document by means of Antidegradation Review that the use of a water body’s available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

**AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**
As per [10 CSR 20-6.010(2)(C)], an applicant may utilize a lower preference continuing authority when a higher level authority is available by submitting information as part of the application to the Department for review and approval, provided it does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

**BIOSOLIDS & SEWAGE SLUDGE:**
Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

- Permittee is not authorized to land apply biosolids. Sludge/biosolids are stored in the lagoon. The permittee must receive approval for any treatment, removal, and disposal of sludge or biosolids that is not identified in the facility description of the operating permit.

**COMPLIANCE AND ENFORCEMENT:**
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

**Facility Performance History:**

- The facility is currently under enforcement action. The enforcement action is due to repeated failure to meet permit limits for BOD, BOD % removal, pH, TSS, TSS% removal, and E. coli, failure to obtain a certified “D” operator, failure to develop and implement a program for maintenance and repair, failure to maintain an O&M manual, failure to post a warning sign, failure to secure entry to the facility, and failure to properly dispose of water via burning of materials.
CONTINUING AUTHORITY:

Each application for an operating permit shall identify the person, as that term is defined in section 644.016(15), RSMo, that is the owner of, operator of, or area-wide management authority for a water contaminant source, point source, wastewater treatment facility, or sewer collection system. This person shall be designated as the continuing authority and shall sign the application. By doing so, the person designated as the continuing authority acknowledges responsibility for compliance with all permit conditions.

10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and requires a higher preference continuing authority be utilized if available. A Level 3, 4, or 5 applicant may constitute a continuing authority by showing that the authorities listed under paragraphs (B)1.–2. of 10 CSR 20-6.010(2) are not available; do not have jurisdiction; are forbidden by state statute or local ordinance from providing service to the person; or that it has met one of the requirements listed in paragraphs (2)(C)1.–7. of 10 CSR 20-6.010(2). The seven options in paragraphs (2)(C)1.–7. for a lower-level authority to demonstrate that it is the valid continuing authority are:

1. A waiver from the existing higher authority declining the offer to accept management of the additional wastewater or stormwater;
2. A written statement or a demonstration of non-response from the higher authority;
3. A to-scale map showing all parts of the legal boundary of the facility’s property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
4. A proposed connection or adoption charge by the higher authority that would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant’s cost for constructing or operating a wastewater treatment system;
5. A proposed service fee on the users of the system by the higher authority that is above what is affordable for existing homeowners in that area;
6. Terms for connection or adoption by the higher authority that would require more than two (2) years to achieve full sewer service; or
7. A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area.

Permit applicants that are Levels 3, 4, and 5 must, as part of their application, identify their method of compliance with this regulation. The following are the methods to comply.

- No higher level authorities are available to the facility;
- No higher level authorities have jurisdiction;
- Higher level authorities are forbidden by state statute or local ordinance from providing service to the person;
- The existing higher level authority is available to the facility, however the facility has proposed the use of a lower preference continuing authority and has submitted one of the following as part of their application (See Fact Sheet Appendix - Continuing Authority for more information on these options):
  - A waiver from the existing higher authority;
  - A written statement or a demonstration of non-response from the higher authority;
  - A to-scale map showing all parts of the legal boundary of the facility’s property are beyond 2000 feet from the collection (sewer) system operated by the higher preference authority;
  - Documentation that the proposed connection or adoption charge by the higher authority would equal or exceed what is economically feasible for the applicant, which may be in the range of one hundred twenty percent (120%) of the applicant’s cost for constructing or operating a wastewater treatment system;
  - Documentation that the proposed service fee on the users of the system by the higher authority is above what is affordable for existing homeowners in that area;
  - Documentation that the terms for connection or adoption by the higher authority would require more than two (2) years to achieve full sewer service;
  - A demonstration that the terms for connection or adoption by the higher authority are not viable or feasible to homeowners in the area;

✓ The continuing authority listed on the application is a municipality. The continuing authority is a Level 3 Authority. The applicant has shown that:

- A higher level authority is not available to the facility;
**Electronic Discharge Monitoring Report (EDMR) Submission System:**
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are optional and can be provided upon request to the Department.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: [https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692](https://dnr.mo.gov/document-search/electronic-discharge-monitoring-report-waiver-request-form-mo-780-2692). A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

- The permittee/facility is currently using the eDMR data reporting system.

**Numeric Lake Nutrient Criteria**

- This facility does not discharge into a lake watershed where numeric lake nutrient criteria are applicable.

**Operator Certification Requirements:**
As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems with population equivalents greater than 200 and are owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and state or federal agencies.

- This facility is required to have a certified operator as it has a population equivalent greater than 200 and is owned or operated by or for a municipality, public sewer district, county, public water supply district, private sewer company regulated by the PSC, state or federal agency.

This facility currently requires a chief operator with a (D) Certification Level. Please see Appendix - Classification Worksheet. Modifications made to the wastewater treatment facility may cause the classification to be modified.

- This facility does not currently retain a chief operator with the correct level of certification required to operate the wastewater treatment facility. Missouri Clean Water Law and its implementing regulation 10 CSR 20-9.020(2)(F) allows the Department to develop a schedule of activities including the date by which compliance shall be obtained. This schedule of activities has been established in this operating permit in Special Condition #19.

**Operational Control Testing Requirements**
Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publically owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publically owned treatment works and privately owned facilities regulated by the Public Service Commission has a Population Equivalent greater than two hundred (200).
10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department’s judgement of monitoring needs for process control at the specified facility.

- The facility is a lagoon that is designed as a no-discharge lagoon and is required to conduct operational control monitoring as follows:

<table>
<thead>
<tr>
<th>Operational Monitoring Parameter</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitation</td>
<td>Twice/Month</td>
</tr>
<tr>
<td>Flow – Influent or Effluent</td>
<td>Twice/Month</td>
</tr>
<tr>
<td>pH – Primary Cell</td>
<td>Twice/Month</td>
</tr>
<tr>
<td>Dissolved Oxygen – Primary Cell</td>
<td>Twice/Month</td>
</tr>
</tbody>
</table>

**Pretreatment Program:**
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee’s pretreatment program may be included in the permit, and are as follows:
- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation.

- The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

**Removal Efficiency:**
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD5) and Total Suspended Solids (TSS) for publically owned treatment works (POTWs). See 40 CFR Part 133.102(a)(3) & (b)(3) and 40 CFR 133.105(a)(3)&(b)(3). This is a no-discharge facility, therefore removal efficiency is 100% and influent monitoring is not required.

**Sanitary Sewer Overflows (SSO) and Inflow and Infiltration (I&I):**
Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.
Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

At this time, the Department recommends the US EPA’s Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002) or the Departments’ CMOM Model located at https://dnr.mo.gov/document-search/capacity-management-operations-maintenance-plan-editable-template. For additional information regarding the Departments’ CMOM Model, see the CMOM Plan Model Guidance document at https://dnr.mo.gov/print/document-search/pub2574. The CMOM identifies some of the criteria used to evaluate a collection system’s management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

**SCHEDULE OF COMPLIANCE (SOC):**

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. See also Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1), 10 CSR 20-7.015(9), and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

**A SOC is not allowed:**

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study that may result in site-specific criteria or alternative effluent limitations. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

- This permit does not contain a SOC.

**SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:**

In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee’s Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater/construction-engineering.

- The permittee does not have a Department approved Sewer Extension Authority Supervised Program.
**VARIANCE:**
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

- This operating permit is not drafted under premises of a petition for variance.

**40 CFR 122.41(M) - BYPASSES:**
The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- This facility does not anticipate bypassing.

**Part IV – Cost Analysis for Compliance**
Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

- Not Applicable; The Department is not required to complete a cost analysis for compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.
Part V – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

WATER QUALITY STANDARD REVISION:
In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

☑ This operating permit does not contain requirements for a water quality standard that has changed twenty-five percent or more since the previous operating permit.

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together and will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. With permit synchronization, this permit will expire in the 3rd Quarter of calendar year 2025.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

☑ The Public Notice period for this operating permit was from March 18, 2022 to April 18, 2022. No responses received.

DATE OF FACT SHEET: FEBRUARY 7, 2022

COMPLETED BY:

ASHLEY KNEEMUELLER, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 526-1503
ashley.kneemueller@dnr.mo.gov
### APPENDIX - CLASSIFICATION WORKSHEET:

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Population Equivalent (P.E.) served, peak day</td>
<td>1 pt./10,000 PE or major fraction thereof, (Max 10 pts.)</td>
<td></td>
</tr>
<tr>
<td>Design Flow (avg. day) or peak month’s flow (avg. day) whichever is larger</td>
<td>1 pt. / MGD or major fraction thereof, (Max 10 pts.)</td>
<td></td>
</tr>
</tbody>
</table>

#### Effluent Discharge

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri or Mississippi River</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Discharge to lake or reservoir outside of designated whole body contact recreational area</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Discharge to losing stream, lake or reservoir area supporting whole body contact recreation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Direct reuse or recycle of effluent</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

#### Land Application/Irrigation

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drip Irrigation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Land application/irrigation</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Overland flow</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### Variation in Raw Wastes (highest level only)

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variations do not exceed those normally or typically expected</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reoccurring deviations or excessive variations of 100 to 200 percent in strength and/or flow</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Reoccurring deviations or excessive variations of more than 200 percent in strength and/or flow</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Department-approved pretreatment program</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

#### Preliminary Treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP systems (operated by the permittee)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Screening and/or comminution</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Grit removal</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Plant pumping of main flow</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Flow equalization</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

#### Primary Treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary clarifiers</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Chemical addition (except chlorine, enzymes)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### Secondary Treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Points Possible</th>
<th>Points Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trickling filter and other fixed film media with or without secondary clarifiers</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Activated sludge (including aeration, oxidation ditches, sequencing batch reactors, membrane bioreactors, and contact stabilization)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Stabilization ponds without aeration</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Aerated lagoon</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Advanced Lagoon Treatment – Aerobic cells, anaerobic cells, covers, or fixed film</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Biological, physical, or chemical</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Carbon regeneration</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total from page ONE (1)</td>
<td>----</td>
<td>13</td>
</tr>
</tbody>
</table>
### APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINTS POSSIBLE</th>
<th>POINTS ASSIGNED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solids Handling</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sludge Holding</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Anaerobic digestion</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Aerobic digestion</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Evaporative sludge drying</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mechanical dewatering</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Solids reduction (incineration, wet oxidation)</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Land application</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Disinfection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorination or comparable</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>On-site generation of disinfectant (except UV light)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Dechlorination</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>UV light</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Required Laboratory Control Performed by Plant Personnel (highest level only)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab work done outside the plant</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Push – button or visual methods for simple test such as pH, settleable solids</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Additional procedures such as DO, COD, BOD, titrations, solids, volatile content</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>More advanced determinations, such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Total from page TWO (2)</td>
<td>----</td>
<td>5</td>
</tr>
<tr>
<td>Total from page ONE (1)</td>
<td>---</td>
<td>13</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>---</td>
<td>18</td>
</tr>
</tbody>
</table>

- A: 71 points and greater
- B: 51 points – 70 points
- C: 26 points – 50 points
- D: 0 points – 25 points
**APPENDIX – Non-Detect Example Calculations:**

**Example:  Permittee has four samples for Pollutant X which has a method minimum level of 5 mg/L and is to report a Daily Maximum and Monthly Average.**

Week 1 = 11.4 mg/L  
Week 2 = Non-Detect or <5.0 mg/L  
Week 3 = 7.1 mg/L  
Week 4 = Non-Detect or <5.0 mg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including *E. coli*), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

\[11.4 + 0 + 7.1 + 0 = 18.5 \div 4 \text{ (number of samples)} = 4.63 \text{ mg/L}.\]

The Permittee reports a Monthly Average of 4.63 mg/L and a Daily maximum of 11.4 mg/L (Note the < symbol was dropped in the answers).

**Example: Permittee has five samples for Pollutant Y that has a method minimum level of 9 µg/L and is to report a Daily Maximum and Monthly Average.**

Day 1 = Non-Detect or <9.0 µg/L  
Day 2 = Non-Detect or <9.0 µg/L  
Day 3 = Non-Detect or <9.0 µg/L  
Day 4 = Non-Detect or <9.0 µg/L  
Day 5 = Non-Detect or <9.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

\[(9 + 9 + 9 + 9 + 9) \div 5 \text{ (number of samples)} = <9 \mu g/L.\]

The Permittee reports a Monthly Average of <9.0 µg/L (retain the ‘less than’ symbol) and a Daily Maximum of <9.0 µg/L.

**Example: Permittee has four samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining two tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.**

Week 1 = Non-Detect or <4.0 µg/L  
Week 2 = Non-Detect or <4.0 µg/L  
Week 3 = Non-Detect or <6.0 µg/L  
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

\[(4 + 4 + 6 + 6) \div 4 \text{ (number of samples)} = <5 \mu g/L. \text{ (Monthly)}\]

The facility reports a Monthly Average of <5.0 µg/L and a Weekly Average of <6.0 µg/L.
APPENDIX – Non-Detect Example Calculations (Continued):

Example: Permittee has five samples for Pollutant Z where the first two tests were conducted using a method with a method minimum level of 4 µg/L and the remaining three tests were conducted using a different method that has a method minimum level of <6 µg/L and is to report a Monthly Average and a Weekly Average.

Week 1 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <4.0 µg/L
Week 2 = Non-Detect or <6.0 µg/L
Week 3 = Non-Detect or <6.0 µg/L
Week 4 = Non-Detect or <6.0 µg/L

For this example, use subpart (g) - For reporting an average based on all non-detected values, remove the “<” sign from the values, average the values, and then add the “<” symbol back to the resulting average.

\[ \frac{4 + 6 + 6 + 6}{5} \text{ (number of samples)} = \frac{<5.2}{5} \text{ µg/L. (Monthly)} \]
\[ \frac{4 + 6}{2} \text{ (number of samples)} = \frac{<5}{2} \text{ µg/L. (Week 2)} \]

The facility reports a Monthly Average of <5.2 µg/L and a Weekly Average of <6.0 µg/L (report highest Weekly Average value)

Example: Permittee has four samples for Pollutant Z where the tests were conducted using a method with a method minimum level of 10 µg/L and is to report a Monthly Average and Daily Maximum. The permit lists that Pollutant Z has a Department determined Minimum Quantification Level (ML) of 130 µg/L.

Week 1 = 12 µg/L
Week 2 = 52 µg/L
Week 3 = Non-Detect or <10 µg/L
Week 4 = 133 µg/L

For this example, use subpart (h) - For reporting an average based on a mix of detected and non-detected values (not including \textit{E. coli}), assign a value of “0” for all non-detects for that reporting period and report the average of all the results.

For this example, \( \frac{12 + 52 + 0 + 133}{4} \text{ (number of samples)} = \frac{197}{4} = 49.3 \text{ µg/L.} \)

The facility reports a Monthly Average of 49.3 µg/L and a Daily Maximum of 133 µg/L.

Example: Permittee has five samples for \textit{E. coli} which has a method minimum level of 1 #/100mL and is to report a Weekly Average (seven (7) day geometric mean) and a Monthly Average (thirty (30) day geometric mean).

Week 1 = 102 #/100mL
Week 2 (Monday) = 400 #/100mL
Week 2 (Friday) = Non-Detect or <1 #/100mL
Week 3 = 15 #/100mL
Week 4 = Non-Detect or <1 #/100mL

For this example, use subpart (i) - When \textit{E. coli} is not detected above the method minimum level, the permittee must report the data qualifier signifying less than detection limit for that parameter (e.g., <1 #/100mL, if the method minimum level is 1 #/100mL). For reporting a geometric mean based on a mix of detected and non-detected values, use one-half of the detection limit (instead of zero) for non-detects when calculating geometric means. The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected.

The Monthly Average (30 day Geometric Mean) = 5th root of \( (102)(400)(0.5)(15)(0.5) = 5 \text{ root of } 153,000 = 10.9 #/100mL \)
The 7 day Geometric Mean = 2nd root of \( (400)(0.5) = 2 \text{ root of } 200 = 14.1 #/100mL \). (Week 2)

The Permittee reports a Monthly Average (30 day Geometric Mean) of 10.9 #/100mL and a Weekly Average (7 day geometric mean) of 102 #/100mL (report highest Weekly Average value)
These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. Sampling Requirements.
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. Monitoring Requirements.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. Sample and Monitoring Calculations. Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. Test Procedures. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall utilize sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when: 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. Record Retention. Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

Section B – Reporting Requirements

1. Planned Changes.
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
   b. Any facility expansions, production increases, or process modifications which result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

6. Illegal Activities.
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

### Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. **Bypass:** the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. **Severe Property Damage:** substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. **Upset:** an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

b. **Notice.**
   i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
   ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).

### Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement
imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates sections 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(i) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 314 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. Duty to Reapply.
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. Permit Actions.
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. Permit Transfer.
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege.
10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
   a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
   b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
   a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
   b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
   c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.
PART II - SPECIAL CONDITIONS – PUBLICLY OWNED TREATMENT WORKS
SECTION A – INDUSTRIAL USERS

1. Definitions

Definitions as set forth in the Missouri Clean Water Laws and approved by the Missouri Clean Water Commission shall apply to terms used herein.

**Significant Industrial User (SIU).** Except as provided in the General Pretreatment Regulation 10 CSR 20-6.100, the term Significant Industrial User means:

1. All Industrial Users subject to Categorical Pretreatment Standards; and
2. Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the Publicly-Owned Treatment Works (POTW) (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW’s or for violating any Pretreatment Standard or requirement.


2. Identification of Industrial Discharges

Pursuant to 40 CFR 122.44(j)(1), all POTWs shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR 403.

3. Application Information

Applications for renewal or modification of this permit must contain the information about industrial discharges to the POTW pursuant to 40 CFR 122.21(j)(6)

4. Notice to the Department

Pursuant to 40 CFR 122.42(b), all POTWs must provide adequate notice of the following:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging these pollutants; and
2. Any substantial change into the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

For purposes of this paragraph, adequate notice shall include information on:

i. the quality and quantity of effluent introduced into the POTW; and
ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

For POTWs without an approved pretreatment program, the notice of industrial discharges which was not included in the permit application shall be made as soon as practicable. For POTWs with an approved pretreatment program, notice is to be included in the annual pretreatment report required in the special conditions of this permit. Notice may be sent to:

Missouri Department of Natural Resources
Water Protection Program
Attn: Pretreatment Coordinator
P.O. Box 176
Jefferson City, MO 65102
PART III – BIO SOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.

2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.

3. Biosolids and Sludge Use and Disposal Practices:
   a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
   b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
   c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.

4. Biosolids or Sludge Received from other Facilities:
   a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee’s design sludge capacity is not exceeded and the treatment facility performance is not impaired.
   b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge.

5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.

6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.

7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.

8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.

9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
   b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.
SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RS Mo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RS Mo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.
SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
   a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
   b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
   a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
   b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
   c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
   d. Animal grazing shall not be allowed for 30 days after application of biosolids.
   e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
   f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
   g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
   h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.
5. Pollutant limits
   a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
   b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
   c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.
### TABLE 1

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>75</td>
</tr>
<tr>
<td>Cadmium</td>
<td>85</td>
</tr>
<tr>
<td>Copper</td>
<td>4,300</td>
</tr>
<tr>
<td>Lead</td>
<td>840</td>
</tr>
<tr>
<td>Mercury</td>
<td>57</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>75</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>7,500</td>
</tr>
</tbody>
</table>

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

### TABLE 2

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Milligrams per kilogram dry weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39</td>
</tr>
<tr>
<td>Copper</td>
<td>1,500</td>
</tr>
<tr>
<td>Lead</td>
<td>300</td>
</tr>
<tr>
<td>Mercury</td>
<td>17</td>
</tr>
<tr>
<td>Nickel</td>
<td>420</td>
</tr>
<tr>
<td>Selenium</td>
<td>100</td>
</tr>
<tr>
<td>Zinc</td>
<td>2,800</td>
</tr>
</tbody>
</table>

e. Annual pollutant loading rate.

### TABLE 3

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac) per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>2.0 (1.79)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.9 (1.70)</td>
</tr>
<tr>
<td>Copper</td>
<td>75 (66.94)</td>
</tr>
<tr>
<td>Lead</td>
<td>15 (13.39)</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.85 (0.76)</td>
</tr>
<tr>
<td>Nickel</td>
<td>21 (18.74)</td>
</tr>
<tr>
<td>Selenium</td>
<td>5.0 (4.46)</td>
</tr>
<tr>
<td>Zinc</td>
<td>140 (124.96)</td>
</tr>
</tbody>
</table>

f. Cumulative pollutant loading rates.

### TABLE 4

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Kg/ha (lbs./ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>41 (37)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>39 (35)</td>
</tr>
<tr>
<td>Copper</td>
<td>1500 (1339)</td>
</tr>
<tr>
<td>Lead</td>
<td>300 (268)</td>
</tr>
<tr>
<td>Mercury</td>
<td>17 (15)</td>
</tr>
<tr>
<td>Nickel</td>
<td>420 (375)</td>
</tr>
<tr>
<td>Selenium</td>
<td>100 (89)</td>
</tr>
<tr>
<td>Zinc</td>
<td>2800 (2499)</td>
</tr>
</tbody>
</table>

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.

   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.

   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).

   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop
nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

\[(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor})\].

Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. NOTE: There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.
**SECTION H – SEPTAGE**

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

**SECTION I – CLOSURE REQUIREMENTS**

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
   a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
   b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
   c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
      i. PAN can be determined as follows:
         \[ \text{(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor)} \]
         \[ \text{Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.} \]
5. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
   a. Testing for metals or fecal coliform is not required.
   b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
   c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
    i. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon basin shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
   a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate
surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

**SECTION J – MONITORING FREQUENCY**

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

   **Table 5**

<table>
<thead>
<tr>
<th>Biosolids or Sludge produced and disposed (Dry Tons per Year)</th>
<th>Monitoring Frequency (See Notes 1, and 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium</td>
<td>Nitrogen TKN, Nitrogen PAN¹</td>
</tr>
<tr>
<td>319 or less</td>
<td>1/year</td>
</tr>
<tr>
<td>320 to 1650</td>
<td>4/year</td>
</tr>
<tr>
<td>1651 to 1,650</td>
<td>6/year</td>
</tr>
<tr>
<td>1,651+</td>
<td>12/year</td>
</tr>
</tbody>
</table>

¹Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

²Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permitees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.

3. Additional testing may be required in the special conditions or other sections of the permit.

4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

**SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS**

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.

2. Reporting period

   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.

   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.

3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.

4. Reports shall be submitted as follows: Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

   DNR regional or other applicable office listed in the permit (see cover letter of permit)

   ATTN: Sludge Coordinator
5. Annual report contents. The annual report shall include the following:
   a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
   b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
   c. Gallons and % solids data used to calculate the dry ton amounts.
   d. Description of any unusual operating conditions.
   e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
      i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
      ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
   f. Contract Hauler Activities:
      If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
   g. Land Application Sites:
      i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as an legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
      ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
      iii. Report the method used for compliance with pathogen and vector attraction requirements.
      iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM B: APPLICATION FOR OPERATING PERMIT FOR
FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND
HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000
GALLONS PER DAY

READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:
☐ An operating permit for a new or unpermitted facility. Construction Permit # ______
   (Include completed antidegradation review or request for antidegradation review, see instructions)
☐ A new site-specific operating permit formerly general permit #MOG ______
☐ A site-specific operating permit renewal: Permit #MO- ______ Expiration Date ______
☑ A site-specific operating permit modification: Permit #MO- 0101346 Reason: conversion to land app. system
☐ General permit (NON-POTWs) (MOGD –discharging < 50,000 GPD or MOG823 – Land Application of Domestic Wastewater):
   Permit #MO- ______ Expiration Date ______

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☐ YES ☐ NO

2. FACILITY

NAME
Arbyrd Wastewater Treatment Facility

ADDRESS (PHYSICAL)
1.25 miles East of the intersection of Hwy 108 and 164

CITY
Arbyrd

STATE
MO

ZIP CODE
63821

2.1 Legal description: Sec. 5 , T 16N , R 8E

County
Dunklin

2.2 UTM Coordinates Easting (X): 750694 Northing (Y): 3993195
   For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: N/A

2.4 Number of outfalls: 0 Wastewater outfalls: 0 Stormwater outfalls: 0 Instream monitoring sites: 0

3. OWNER:

NAME
City of Arbyrd

EMAIL ADDRESS
cityclerk@arbyrdmissouri.co

ADDRESS
102 E Frisco Street

CITY
Arbyrd

STATE
MO

ZIP CODE
63821

3.1 Request review of draft permit prior to public notice? ☑ YES ☐ NO

3.2 Are you a publicly owned treatment works? ☑ YES ☐ NO
   If yes, please attach the Financial Questionnaire.
   See: https://dnr.mo.gov/forms/780-2511-f.pdf

3.3 Are you a privately owned treatment works? ☑ YES ☐ NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? ☑ YES ☐ NO

4. CONTINUING AUTHORITY:

NAME
City of Arbyrd

EMAIL ADDRESS
cityclerk@arbyrdmissouri.co

ADDRESS
102 E Frisco Street

CITY
Arbyrd

STATE
MO

ZIP CODE
63821

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a
description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME
Matt Smith

EMAIL ADDRESS
cityclerk@arbyrdmissouri.com

ADDRESS
102 E Frisco Street

CITY
Arbyrd

STATE
MO

ZIP CODE
63821

TITLE
Operator

CERTIFICATE NUMBER
9776

6. FACILITY CONTACT

NAME
Chris Bolt

EMAIL ADDRESS
cityclerk@arbyrdmissouri.com

ADDRESS
102 E Frisco Street

CITY
Arbyrd

STATE
MO

ZIP CODE
63821

TITLE
Operator

TELEPHONE NUMBER WITH AREA CODE
573-888-7210

TELEPHONE NUMBER WITH AREA CODE
870-740-5056
7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.

See attached.

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

Please see the following website:
https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce

See attached.
8. ADDITIONAL FACILITY INFORMATION

8.1 Number of people presently connected or population equivalent (P.E.) 509  
Design P.E. 550

8.2 Connections to the facility: 219  
Number of units presently connected: 219  
Residential: 214  Commercial: 5  Industrial: 0

8.3 Design flow: 55k gpd  
Actual flow: 34k gpd

8.4 Will discharge be continuous through the year?  
☐ Yes  ☑ No  
Discharge will occur during the following months: N/A - non-discharge  
How many days of the week will discharge occur? N/A - non-discharge

8.5 Is industrial wastewater discharged to the facility?  
☐ Yes  ☑ No  
If yes, attach a list of the industries that discharge to your facility

8.6 Does the facility accept or process leachate from landfills?  
☐ Yes  ☑ No

8.7 Is wastewater land applied?  
☐ Yes  ☑ No  
If yes, attach Form L.  
See: https://dnr.mo.gov/forms/780-1686-f.pdf

8.8 Does the facility discharge to a losing stream or sinkhole?  
☐ Yes  ☑ No

8.9 Has a wasteload allocation study been completed for this facility?  
☐ Yes  ☑ No

9. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant.  
☐ Yes  ☑ No  
Push-button or visual methods for simple test such as pH, settleable solids.  
☐ Yes  ☑ No

Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content.  
☐ Yes  ☑ No

More advanced determinations, such as BOD seeding procedures, fecal coliform/E. coli, nutrients (including Ammonia), Oil & Grease, total oils, phenols, etc.  
☐ Yes  ☑ No

Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.  
☐ Yes  ☑ No

10. COLLECTION SYSTEM

10.1 Are there any municipal satellite collection systems connected to this facility?  
☐ Yes  ☑ No  
If yes, please list all connected to this facility, contact phone number and length of each collection system

<table>
<thead>
<tr>
<th>FACILITY NAME</th>
<th>CONTACT PHONE NUMBER</th>
<th>LENGTH OF SYSTEM (FEET OR MILES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10.2 Length of pipe in the sewer collection system? (If available, include totals from satellite collection systems)  
26,800 Feet, or 5 Miles (either unit is appropriate)

10.3 Does significant infiltration occur in the collection system?  
☐ Yes  ☑ No  
If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:
11. BYPASSING

Does any bypassing occur in the collection system or at the treatment facility?  ☑ Yes  ❏ No

If yes, explain:

12. SLUDGE HANDLING, USE AND DISPOSAL

12.1 Is the sludge a hazardous waste as defined by 10 CSR 25?  ☐ Yes ☑ No

12.2 Sludge production, including sludge received from others: 5.5 Design dry tons/year 4.8 Actual dry tons/year

12.3 Capacity of sludge holding structures:
- Sludge storage provided: 364k cubic feet; 7k days of storage; est 30 average percent solids of sludge;
- ☐ No sludge storage is provided.  ☑ Sludge is stored in lagoon.

12.4 Type of Storage:
- ☐ Holding tank
- ☐ Basin
- ☑ Lagoon
- ☐ Concrete Pad
- ☐ Other (Describe) ______

12.5 Sludge Treatment:
- ☑ Lagoon
- ☐ Composting
- ☐ Other (Describe) ______
- ☐ Anaerobic Digester
- ☐ Aerobic Digester
- ☐ Air or Heat Drying
- ☐ Storage Tank
- ☐ Lime Stabilization
- ☐ Other (Attach description)

12.6 Sludge Use or Disposal:
- ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
- ☐ Hauled to Another treatment facility
- ☑ Sludge Retained in Wastewater treatment lagoon
- ☐ Land Application
- ☐ Contract Hauler
- ☐ Incineration
- ☐ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:
- ☑ By applicant  ☐ By others (complete below)

<table>
<thead>
<tr>
<th>NAME</th>
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<tr>
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<th>MO-</th>
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12.8 Sludge use or disposal facility

- ☑ By applicant  ☐ By others (Complete below.)

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</table>

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?

- ☑ Yes  ☐ No  (Explain)

Sludge is retained in existing lagoon.

MO 780-1512 (05-21)
13. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127, National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure a timely, complete, accurate, and nationally-consistent set of data. One of the following options must be checked in order for this application to be considered complete. Visit https://dnr.mo.gov/env/wpp/edmr.htm for information on the Department's eDMR system and how to register.

☐ I will register an account online to participate in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.

☒ I have already registered an account online to participate in the Department's eDMR system through MoGEM.

☐ I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

☐ The permit I am applying for does not require the submission of discharge monitoring reports.

14. JETPAY

Permit fees may be paid online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment.

New Site Specific Permit: https://magic.cuttersolutions.com/magic-ui/payments/mo-natural-resources/591/

Construction Permits: https://magic.cuttersolutions.com/magic-ui/payments/mo-natural-resources/592/

Modification Fee: https://magic.cuttersolutions.com/magic-ui/payments/mo-natural-resources/596/

New General Domestic WW: https://magic.cuttersolutions.com/magic-ui/payments/mo-natural-resources/772/

15. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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<tbody>
<tr>
<td>Jeff Wilson</td>
<td>Mayor</td>
<td>573-654-3834</td>
</tr>
</tbody>
</table>

SIGNATURE

MO 780-1512 (03-21)
INSTRUCTIONS FOR COMPLETING FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY

(Facilities over 100,000 gallons per day of domestic waste must use FORM B2)
(Facilities that receive wastes other than domestic contact the department)

1. Check the appropriate box. Do not check more than one Item. Operating permit refers to a permit issued by the Department of Natural Resources' Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.

1.1 Fees Information:

DOMESTIC OPERATING PERMIT FEES – PRIVATE
Annual operating permit fees are based on flow.

<table>
<thead>
<tr>
<th>Annual fee/Design flow</th>
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</thead>
<tbody>
<tr>
<td>$150..................&lt;5,000 gpd</td>
<td>$1,000........15,000-24,999 gpd</td>
<td>$4,000........100,000-249,999 gpd</td>
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<tr>
<td>$300..............5,000-9,999 gpd</td>
<td>$1,500........25,000-29,999 gpd</td>
<td>$5,000........&lt;250,000 gpd</td>
</tr>
<tr>
<td>$600............10,000-14,999 gpd</td>
<td>$3,000........30,000-99,999 gpd</td>
<td></td>
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New domestic wastewater treatment facilities must submit the annual fee with the original application.
If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of 2% per month are charged and added to outstanding annual fees.

PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (city, public sewer district, public water district, or other publicly owned treatment works that charge a service connection fee). Annual fee is based on number of service connections.
Fees listings are found in 10 CSR 20-6.011 which is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

a. Operating permits that charge a service connection fee - $200 each.

b. All other permits
   (1) $100 each for a minor modification (name changes, address changes, other non-substantive changes) or
   (2) A fee equal to 25% of the facility's annual operating fee for a major modification.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.

2.1 Self-explanatory

2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at http://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0da087c33c8c5ce.

2.3-2.4 Self-explanatory

3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner. The owner identified in this section and subsequently reflected on the certificate page of the operating permit, is the owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is occurring.
Prior to submitting a permit to public notice, the department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.

3.2-3.4 Self-explanatory. The Financial Questionnaire is available at: https://dnr.mo.gov/forms/780-2511-f.pdf

4. Continuing Authority - A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contracually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. If the continuing authority is not an individual(s), government, or otherwise required to register with the Missouri Secretary of State (SoS), then the business name must be listed exactly as it appears on the SoS's webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0

5. Operator – Provide the name, certificate number, title, mailing address, primary phone number, and e-mail address of the operator of the facility.

6. Provide the name, title, mailing address, primary phone number, and e-mail address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.
7.1 Process Flow Diagram Examples

7.2 A topographic map is available on the Web at [https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0daee87c33c8c5ce](https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0daee87c33c8c5ce) or from the Department of Natural Resources' Geological Survey Division in Rolla at 573-368-2125.

8.1-8.6 Self-explanatory.
8.7 If wastewater is land applied submit Form I: [www.dnr.mo.gov/forms/780-1686-f.pdf](http://www.dnr.mo.gov/forms/780-1686-f.pdf).
8.9-8.9 Self-explanatory
INSTRUCTIONS FOR COMPLETING FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY (continued)

10.1 Self-explanatory.
10.2 Self-explanatory.
10.3 If Inflow and Infiltration (I&I) is a problem at the facility, list possible actions to be taken to repair the collection and treatment facility.
11. Include overflows of combined sewers and lift stations or bypassing of the wastewater treatment facility. Provide a detailed description of the circumstances that sewage bypassing occurs and the frequency of occurrence.
12.1-12.8 Self-explanatory.
13. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wqp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package. Waivers to electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:
   a. members of religious communities that choose not to use certain technologies.
   b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: https://broadbandmap.fcc.gov/#/. Please contact the department if you need assistance.
14. JETPAY
Applicants can pay fees online by credit card or eCheck through a system called JetPay.
   a. Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
   b. Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program’s Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
   c. Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
   d. If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, to sherry.bell@dnr.mo.gov. The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. Please do not include your credit card information in the email.
   e. Applicants can find fee rates in 10 CSR 20-6.011 (https://dnr.mo.gov/pubs/pub2564.htm).
15. CERTIFICATION
Signature - All applications must be signed as follows and the signatures must be handwritten:
   a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
   b. For a partnership or sole proprietorship, by a general partner or the proprietor.
   c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

Submittal of an incomplete application may result in the application being returned.

This completed form and any attachments along with the applicable permit fees, should be submitted to:
cleanwaterpermits@dnr.mo.gov
OR
Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102

Map of regional offices with addresses and phone numbers are available on the Web at http://dnr.mo.gov/regions/. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.
1. **GENERAL INFORMATION**

<table>
<thead>
<tr>
<th>FACILITY NAME</th>
<th>PERMIT NUMBER</th>
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<tbody>
<tr>
<td>Arbyrd Wastewater Treatment Facility</td>
<td>#MO- 0101346</td>
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<table>
<thead>
<tr>
<th>CITY</th>
<th>COUNTY</th>
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<tbody>
<tr>
<td>Arbyrd</td>
<td>Dunklin</td>
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2. **GENERAL FINANCIAL INFORMATION (ALL FACILITIES)**

2.1 Number of connections to the facility: Residential 214, Commercial 5, Industrial 0

2.2 Current sewer user rate (Based on a 5,000 gallon per month usage): $46.14

2.3 Current annual operating costs for the facility (excludes depreciation): $53,062.49

2.4 Bond rating (if applicable): Series A

2.5 Bonding capacity: $0

2.6 Current outstanding debt relating to wastewater collection and treatment: $1,000,000

2.7 Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure: $14.21

2.8 Attach any relevant financial statements.

3. **FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES**

3.1 Municipality’s Full Market Property Value: $2,890,580.00

3.2 Municipality’s Overall Net Debt: $959,100.00

3.3 Municipality’s Property Tax Revenues (levied) [A]: $28,905.80

3.4 Municipality’s Property Tax Revenues (collected) [B]: $27,163.62

3.5 Municipality’s Property Tax Collection Rate ([B]/[A]): 0.94

4. **FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS**

4.1 Total connections to the sewer district: Residential 214, Commercial 5, Industrial 0

4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district? Each sewer customer is charged a monthly fee as part of their sewer bill to fund a replacement account and, therefore, costs are divided across the City’s customers. The replacement account will be used to pay for upgrades.

5. **ADDITIONAL CONSIDERATIONS (ALL FACILITIES)**

5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary):

The City just completed a $1,500,000 wastewater improvements project that included converting the City’s treatment lagoon into a holding cell and constructing a non-discharge land application spray field. The improvements also included constructing three new lift stations and collection system improvements.

5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements (attach sheets as necessary):
6. CERTIFICATION

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<td>Jeff Wilson</td>
<td>Mayor</td>
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</table>

**SIGNATURE**: [Signature]

**DATE SIGNED**: [Date]

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**INSTRUCTIONS FOR COMPLETING THE FINANCIAL QUESTIONNAIRE**

The Financial Questionnaire it to be completed by municipalities, sewer districts, and water supply districts when filing for renewal of their Missouri State Operating Permit. The Financial Questionnaire is to be submitted as an attachment to FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY and FORM B2: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY.

1. **GENERAL INFORMATION** – Provide the name by which the facility is locally known, the Missouri State Operating Permit number, and the city and county where the facility is located.

2. **GENERAL FINANCIAL INFORMATION (ALL FACILITIES)** – Municipalities, sewer districts, and water supply districts are to complete.
   2.1 Self-explanatory.
   2.2 Provide the rate that a household would be charged for sewer service if they use 5,000 gallons per month.
   2.3 Provide the cost to operate and maintain the wastewater facility annually.
   2.4 Bond ratings can be found here: [link](http://emr.msrp.org/issuerHomePage/Home/pagesForC6?cuisip=795169).
   2.5 General obligation bond capacity allowed by constitution: Cities = up to 20% of taxable tangible property; Sewer districts = up to 5% of taxable tangible property.
   2.6 Provide the amount of debt owed on wastewater collection and treatment. Debt information is typically available from your community’s annual financial statements.
   2.7 Provide the amount of a user’s monthly sewer bill that is used toward debt owed on wastewater collection and treatment. This may be a percentage or dollar amount.
   2.8 Self-explanatory.

3. **FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES** – Municipalities are to complete.
   3.1 Full Market Property Value is typically available through your community or state assessor’s office.
   3.2 Debt information is typically available from your community’s annual financial statements.
   3.3 Property tax revenues are typically available from your community’s annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor’s report: [link](https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31).
   3.4 Property Taxes Levied = (Real Property Assessed Value) * (Property Tax Rate). This information is typically available through your community or state assessor’s office and your community’s annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor’s report: [link](https://app.auditor.mo.gov/AuditReports/AudRpt2.aspx?id=31).
   3.5 Property tax collection rate = (Property Tax Revenues) / (Property Taxes Levied).

4. **FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS** – Sewer Districts and Water Supply Districts are to complete.
   4.1-4.2 Self-explanatory.

5. **ADDITIONAL CONSIDERATIONS (ALL FACILITIES)** – Municipalities, sewer districts, and water supply districts are to complete.
   5.1-5.2 Self-explanatory.

6. **CERTIFICATION** – Provide the name and contact information for the individual who can respond to financial information requests for your community. This form must be signed by your community’s “owner” or “authorized representative”. The owner for a municipality is either the principal executive officer or ranking elected official.

If there are any questions concerning this form or your Missouri State Operating Permit, contact the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.
Arbyrd Wastewater Treatment Facility Flow Diagram

Treatment process description: Wastewater is pumped from the terminal lift station (located in Arbyrd, off-site) to the wastewater treatment facility. Flows pass through a bar screen to remove debris, then pass to the first of three lagoon cells. Sluice gates control flow between cells. Water from the third lagoon cell is decanted by a lift station. Thence, flows pass through an automatic backwash filter to remove finer particulate matter. From the filter, flows are pumped to a center pivot irrigation system which applies wastewater to a 48-acre field.
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FINANCIAL QUESTIONNAIRE

1. GENERAL INFORMATION

FACILITY NAME: Arbyrd Wastewater Treatment Facility
PERMIT NUMBER: #MO- 0101346
CITY: Arbyrd
COUNTY: Dunklin

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES)

2.1 Number of connections to the facility: Residential 214 Commercial 5 Industrial 0

2.2 Current sewer user rate (Based on a 5,000 gallon per month usage): $46.14

2.3 Current annual operating costs for the facility (excludes depreciation): $53,062.49

2.4 Bond rating (if applicable): Series A

2.5 Bonding capacity: $0

2.6 Current outstanding debt relating to wastewater collection and treatment: $1,000,000

2.7 Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure: $14.21

2.8 Attach any relevant financial statements.

3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES

3.1 Municipality's Full Market Property Value:

3.2 Municipality's Overall Net Debt:

3.3 Municipality’s Property Tax Revenues (levied) [A]:

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3.5 Municipality’s Property Tax Collection Rate ([B]/[A]):

4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS

4.1 Total connections to the sewer district: Residential 214 Commercial 5 Industrial 0

4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district?

Each sewer customer is charged a monthly fee as part of their sewer bill to fund a replacement account and, therefore, costs are divided across the City's customers. The replacement account will be used to pay for upgrades.

5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES)

5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary):

The City just completed a $1,500,000 wastewater improvements project that included converting the City's treatment lagoon into a holding cell and constructing a non-discharge land application spray field. The improvements also included constructing three new lift stations and collection system improvements.

5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements (attach sheets as necessary):
6. CERTIFICATION

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<tr>
<td>Flora Smith</td>
<td>City Clerk</td>
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</table>

INSTRUCTIONS FOR COMPLETING THE FINANCIAL QUESTIONNAIRE

The Financial Questionnaire is to be completed by municipalities, sewer districts, and water supply districts when filing for renewal of their Missouri State Operating Permit. The Financial Questionnaire is to be submitted as an attachment to FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY and FORM B2: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY.

1. GENERAL INFORMATION – Provide the name by which the facility is locally known, the Missouri State Operating Permit number, and the city and county where the facility is located.

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.
   2.1 Self-explanatory.
   2.2 Provide the rate that a household would be charged for sewer service if they use 5,000 gallons per month.
   2.3 Provide the cost to operate and maintain the wastewater facility annually.
   2.4 Bond ratings can be found here: [Link].
   2.5 General obligation bond capacity allowed by constitution: Cities = up to 20% of taxable tangible property; Sewer districts = up to 5% of taxable tangible property.
   2.6 Provide the amount of debt owed on wastewater collection and treatment. Debt information is typically available from your community’s annual financial statements.
   2.7 Provide the amount of a user’s monthly sewer bill that is used toward debt owed on wastewater collection and treatment. This may be a percentage or dollar amount.
   2.8 Self-explanatory.

3. FINANCIAL INFORMATION REQUIRED FROM MUNICIPALITIES – Municipalities are to complete.
   3.1 Full Market Property Value is typically available through your community or state assessor’s office.
   3.2 Debt information is typically available from your community’s annual financial statements.
   3.3 Property tax revenues are typically available from your community’s annual financial statements. Property tax rates for Missouri communities can be found in the annual auditor’s report: [Link].
   3.4 Property Taxes Levied = (Real Property Assessed Value) * (Property Tax Rate).
   3.5 Property tax collection rate = (Property Tax Revenues) / (Property Taxes Levied).

4. FINANCIAL INFORMATION REQUIRED FROM SEWER DISTRICTS – Sewer Districts and Water Supply Districts are to complete.

4.1-4.2 Self-explanatory.

5. ADDITIONAL CONSIDERATIONS (ALL FACILITIES) – Municipalities, sewer districts, and water supply districts are to complete.

5.1-5.2 Self-explanatory.

6. CERTIFICATION – Provide the name and contact information for the individual who can respond to financial information requests for your community. This form must be signed by your community’s "owner" or "authorized representative". The owner for a municipality is either the principal executive officer or ranking elected official.

If there are any questions concerning this form or your Missouri State Operating Permit, contact the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**WATER PROTECTION PROGRAM**  
**FORM I – PERMIT APPLICATION FOR**  
**OPERATION OF WASTEWATER IRRIGATION SYSTEMS**

**INSTRUCTIONS:** The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater. FORM A for industrial wastewater.

### 1. FACILITY INFORMATION

1.1 Facility Name  
Arbyrd Wastewater Treatment Facility

1.2 Permit Number  
MO- 0101346

1.3 Type of wastewater to be irrigated:  
- Domestic  
- Municipal  
- State/National Park  
- Seasonal business  
- Municipal with Pretreatment Program or Significant Industrial Users  
- Other (explain) ________

SIC Codes (list all that apply, in order of importance) ________

1.4 Months when the business or enterprise will operate or generate wastewater:  
- 12 months per year  
- Part of year (list Months): ________

1.5 This system is designed for:  
- No-discharge  
- Partial irrigation when feasible and discharge rest of time.  
- Irrigation during recreation season (April – October) and discharge during November – March.  
- Other (explain) ________

1.6 List the Facility outfalls which will be applicable to the irrigation system.  
Outfall Numbers: N/A

### 2. STORAGE BASINS

2.1 Number of storage basins: ________  
Type of basin:  
- Steel  
- Concrete  
- Fiberglass  
- Earthen  
- Earthen with membrane liner

### 3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites ________  
Total Acres 48

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<th>¼</th>
<th>½</th>
<th>¾</th>
<th>Sec 5</th>
<th>T 16N</th>
<th>R 8E</th>
<th>Dunklin</th>
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<td>R __</td>
<td>Dunklin</td>
<td>County</td>
<td>________</td>
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</table>

Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.

3.3 Type of vegetation:  
- Grass hay  
- Pasture  
- Timber  
- Row crops  
- Other (describe) ________

3.4 Wastewater flow (dry weather) gallons/day:  
Average annual: 55K  
Seasonal N/A  
Off-season N/A

Months of seasonal flow: ________
3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: 473 inches/year 0.6 inches/hour 2.4 inches/day 17 inches/week
Actual: TBD inches/year TBD inches/hour TBD inches/day TBD inches/week

Total Irrigation per year (gallons): 20M Design TBD Actual

Actual months used for Irrigation (check all that apply):
☑ Jan ☐ Feb ☐ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☑ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec

3.6 Land Application Rate is based on:
☐ Nutrient Management Plan (N&P)
☑ Hydraulic Loading
☐ Other (describe) ____________________________

3.7 Equipment type: □ Sprinklers □ Gated pipe ☑ Center pivot □ Traveling gun □ Other (describe) ________________

Equipment Flow Capacity: 24,000 Gallons per hour 840 Total hours of operation per year

3.8 Public Use Areas. Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:
☐ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☑ Site is not for public use
☐ Other (describe) ____________________________

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features: 2k Permanent flowing stream >2k Losing Stream 125 Intermittent (wet weather) stream 2k Lake or pond
100 Property boundary 350 Dwellings 4k Water supply well 10 Other (describe) ____________________________

3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: 09/29/2022

4. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

OWNER OR AUTHORIZED REPRESENTATIVE
Jeff Wilson

OFFICIAL TITLE
Mayor

EMAIL ADDRESS
jeff.wilson@arbyrdmissouri.com

TELEPHONE NUMBER WITH AREA CODE
(573) 654-3834

SIGNATURE

DATE SIGNED

786-1986 (08-14)
OPERATION AND MAINTENANCE PLAN
Non-Discharging Domestic Wastewater Treatment Facility (WWTF)

Project Name: Arbyrd Wastewater Treatment Facility
Location: 9850 State Hwy 164, Arbyrd, MO 63821
Created: 9-29-21 Revised: 

- The Arbyrd no-discharge WWTF is located at SW ¼, SE ¼, Section 5, T 16N, R 8E, Dunklin County.

- The land application area is property consists of 48 acres, which is located adjacent to the facility’s lagoon. Non-food row crops will be used for land application. The method of land application is: Center Pivot Irrigation System.

- Land application will not occur within 30 days prior to crop harvesting or grazing by cattle.

- Land application will not occur on frozen or saturated ground.

- The lagoon berms will be kept mowed with the goal to keep the grass and weeds on the berm no taller than 6-inches.

- Land application activity will be recorded in a log, noting the inches of wastewater applied per hour, day, week, and year not to exceed the MDNR permit limitations.

- An all-weather access road will be provided to the WWTF, with sufficient space provided for turning around vehicles.

- Routine maintenance of the WWTF will be conducted on a regular schedule:
  - Pump and other equipment checks will be conducted on a routine basis and repairs/cleaning will be conducted as needed.
  - The perimeter fence and facility gate will be checked to ensure no damage is present that could allow authorized access to the facility. Any damage to the fence or gate will be repaired as soon as possible. The gate will remain locked when not in immediate use. Warning signs will be posted on all sides of the perimeter fence and on all gates.

- Weekly Checklist (maintain records):
  - Confirm that all pumps are currently operable
  - Confirm that valves are currently operable
  - Inspect emergency overflow condition

- This O&M Plan will be maintained on-site and made available to the facility owner or operator and updated as necessary.